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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/538,290	06/10/2005	Naohiro Yoshida	60562.00007	9244

32294 7590 07/02/2007
SQUIRE, SANDERS & DEMPSEY L.L.P.
14TH FLOOR
8000 TOWERS CRESCENT
TYSONS CORNER, VA 22182

EXAMINER

BELL, BRUCE F

ART UNIT	PAPER NUMBER
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1745

MAIL DATE	DELIVERY MODE
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07/02/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/538,290

Applicant(s)

YOSHIDA ET AL.

Examiner

Bruce F. Bell

Art Unit

1746

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-3 is/are allowed.
- 6) ☒ Claim(s) 4 and 5 is/are rejected.
- 7) ☒ Claim(s) 6 and 7 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 June 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>2/10/06; 6/10/05</u> | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 4 and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Bredeweg (4050995).

Bredeweg discloses an electrolytic cell for electrolyzed water vapor where in the water vapor transmitted through the cell is determined by a quantitative mass spectrometer analysis of oxygen and hydrogen generated during electrolysis of the water vapor. When a mass spectrometer is used with the cell, it is not only possible to determine the water vapor transmission rate or water content of a sample but the cell may also be used to determine the transmission rate of gases such as oxygen, nitrogen and carbon dioxide through a sample. See col. 3, lines 4-20.

The prior art of Bredeweg anticipates the applicants instant invention as set forth above with respect to the instant method as set forth in the instant claims. The prior art of Bredeweg does not show that there is any electrolyte added and therefore does not teach toward or away from the subject matter as a whole. Therefore, it appears that there is no electrolyte being added. Further since the gas is being transferred into the mass spectrometer for analysis, it appears that the gases will inherently be analyzed for hydrogen or oxygen isotopes.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Amirav et al (20020054832) in combination with Merren (6297501).

Amirav et al discloses a water electrolyzer that is connected with a mass spectrometer detector. See paragraph 0039.

Amirav et al does not disclose that the mass spectrometer can detect hydrogen and oxygen isotopes contained in the sample water.

Merren discloses an isotopic ratio mass spectrometer that determines hydrogen isotopic ratios. See col. 3, lines 22-32. The spectrometer has an inlet system that generates gaseous samples of hydrogen, HD and deuterium from a liquid sample.

The subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the instant invention was made because even though the prior art of Amirav et al does not disclose that the mass spectrometer is capable of detecting hydrogen or oxygen isotopes, the prior art of Merren shows that mass spectrometers are capable of performing this function. Therefore, the prior art of Amirav et al in combination with Merren render the applicants instant invention as obvious for the reasons set forth above. Neither Amirav or Merren show that electrolytes are added during the electrolysis and therefore, do not teach toward or away from the instant

invention as instantly claimed and the examiner takes the view that electrolyte is not added since there is not recitation in the prior art patents teaching that electrolyte would be added during the electrolysis performed.

Allowable Subject Matter

5. Claims 1-3, 6-7 are allowable over the prior art of record.
6. Claims 6-7 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
7. The following is a statement of reasons for the indication of allowable subject matter: The prior art of record fails to teach and/or suggest a water electrolysis apparatus or method wherein the PEM is coated with non-electrolytic platinum, iridium, rhodium or iridium/rhodium alloy in combination with the anode and cathode being made of porous platinum coated titanium.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bruce F. Bell whose telephone number is 571-272-1296. The examiner can normally be reached on Monday-Friday 6:30 AM - 3:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Barr can be reached on 571 272-1414. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1746

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BFB
June 18, 2007


Bruce F. Bell
Primary Examiner
Art Unit 1746